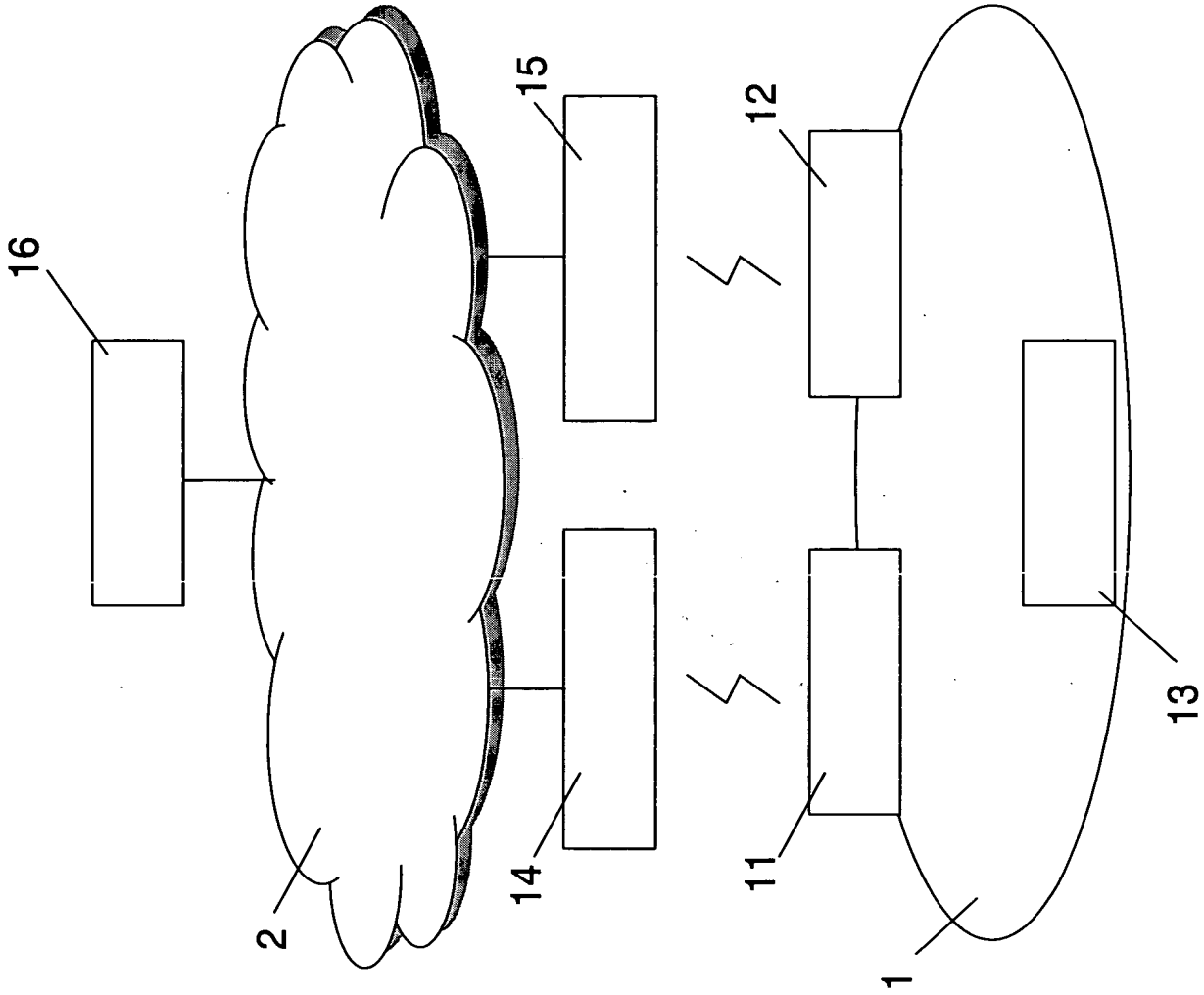


FIG.1

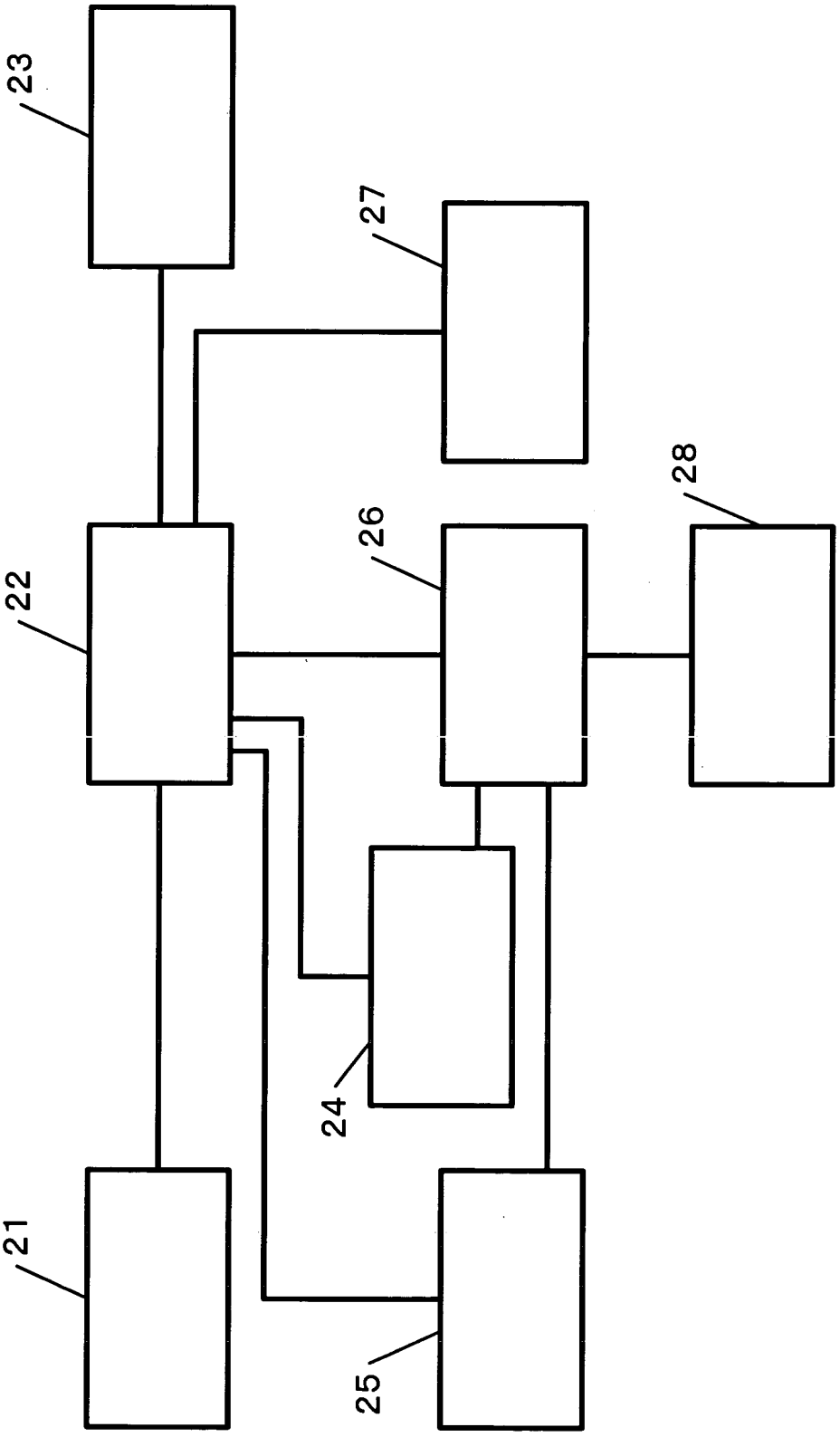


FIG.2

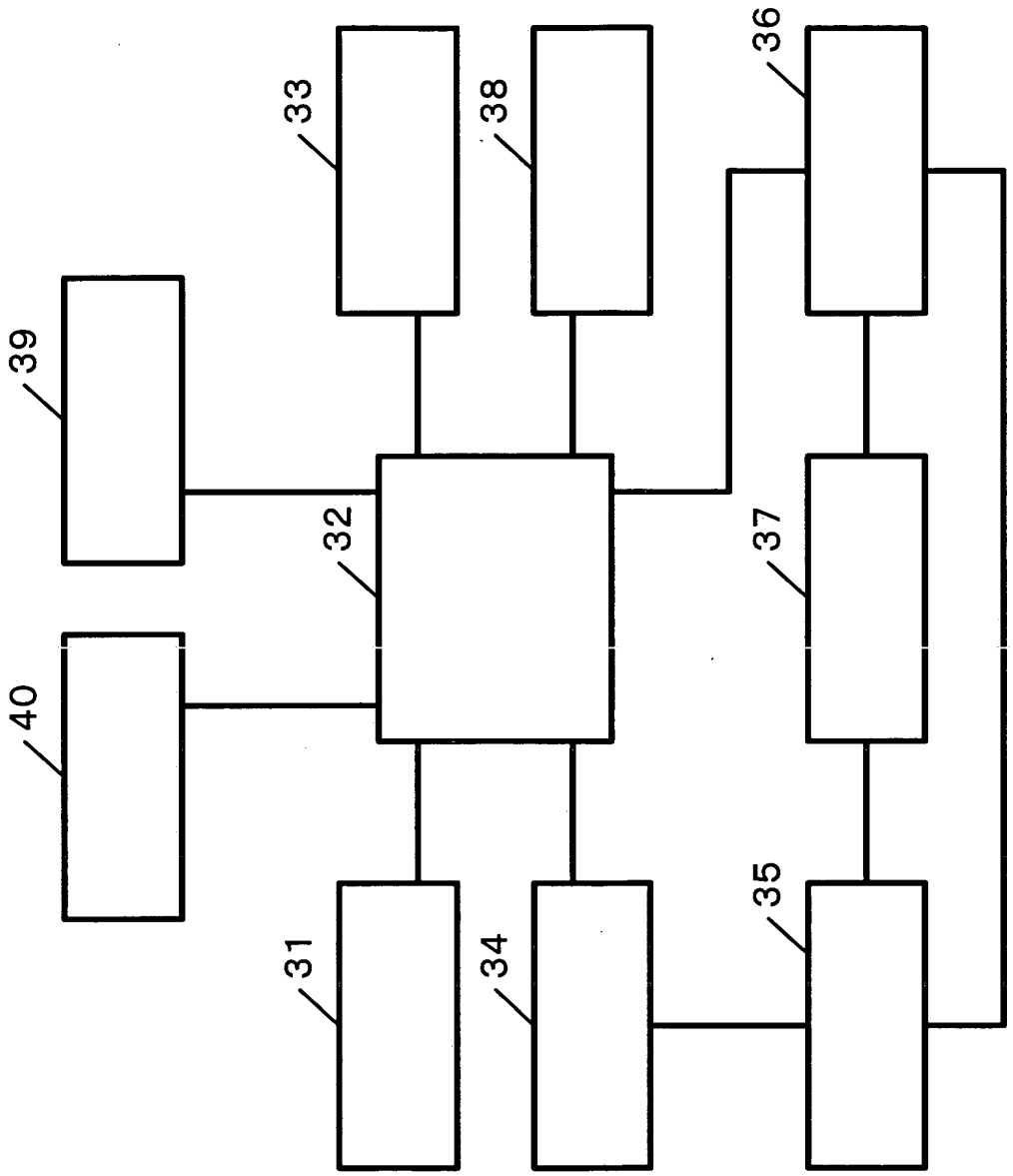


FIG.3

FIG.4

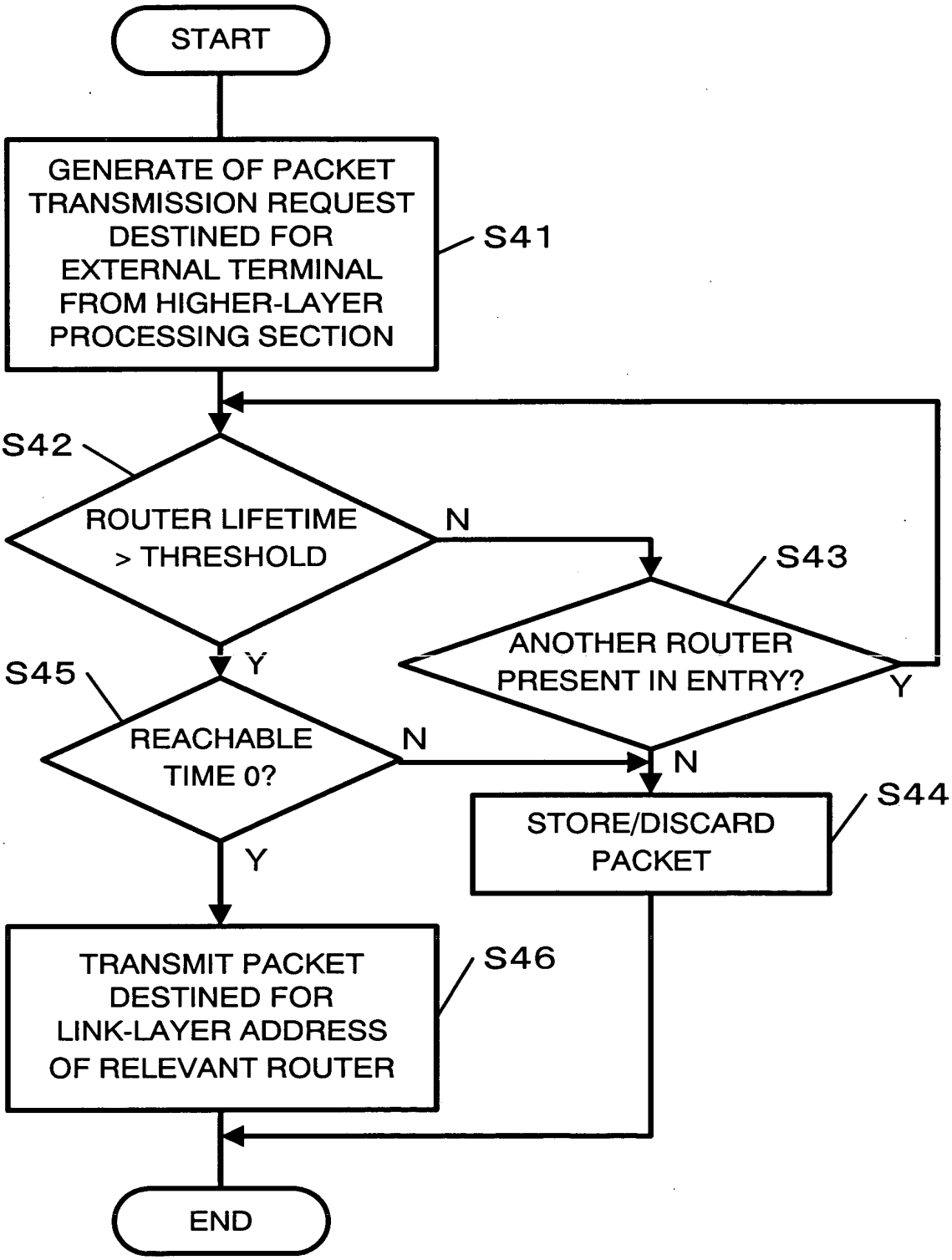
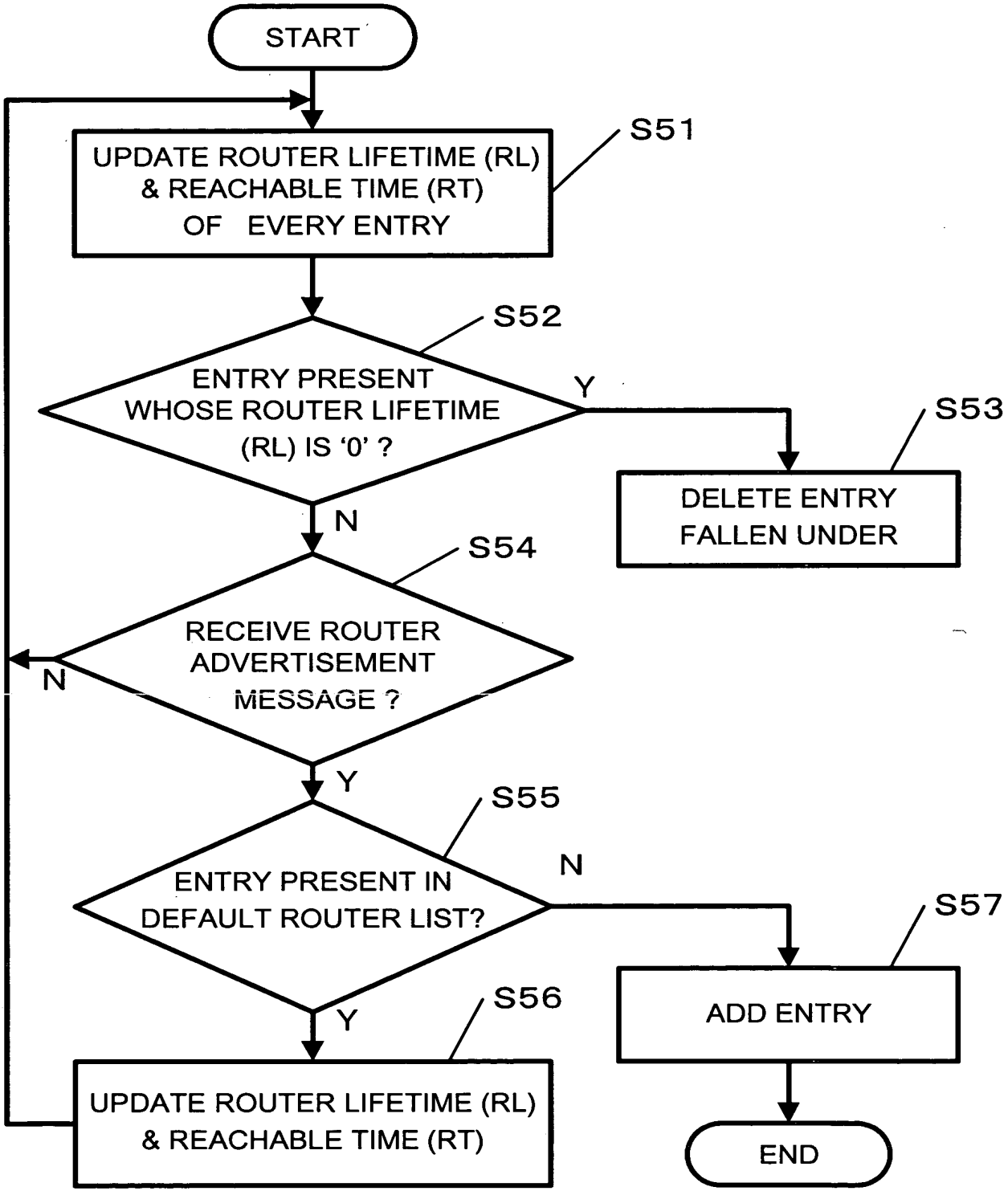

START
GENERATE OF PACKET TRANSMISSION REQUEST DESTINED FOR EXTERNAL TERMINAL FROM HIGHER-LAYER PROCESSING SECTION
S41
S42
ROUTER LIFETIME > THRESHOLD
N
S43
ANOTHER ROUTER PRESENT IN ENTRY?
Y
N
Y
S45
REACHABLE TIME 0?
N
Y
S44
STORE/DISCARD PACKET
TRANSMIT PACKET DESTINED FOR LINK-LAYER ADDRESS OF RELEVANT ROUTER
S46
END

FIG.5


START
UPDATE ROUTER LIFETIME (RL) & REACHABLE TIME (RT) OF EVERY ENTRY
S51
ENTRY PRESENT WHOSE ROUTER LIFETIME (RL) IS '0' ?
S52
Y
DELETE ENTRY FALLEN UNDER
S53
N
RECEIVE ROUTER ADVERTISEMENT MESSAGE ?
S54
N
Y
ENTRY PRESENT IN DEFAULT ROUTER LIST?
S55
N
Y
ADD ENTRY
S57
UPDATE ROUTER LIFETIME (RL) & REACHABLE TIME (RT)
S56
END

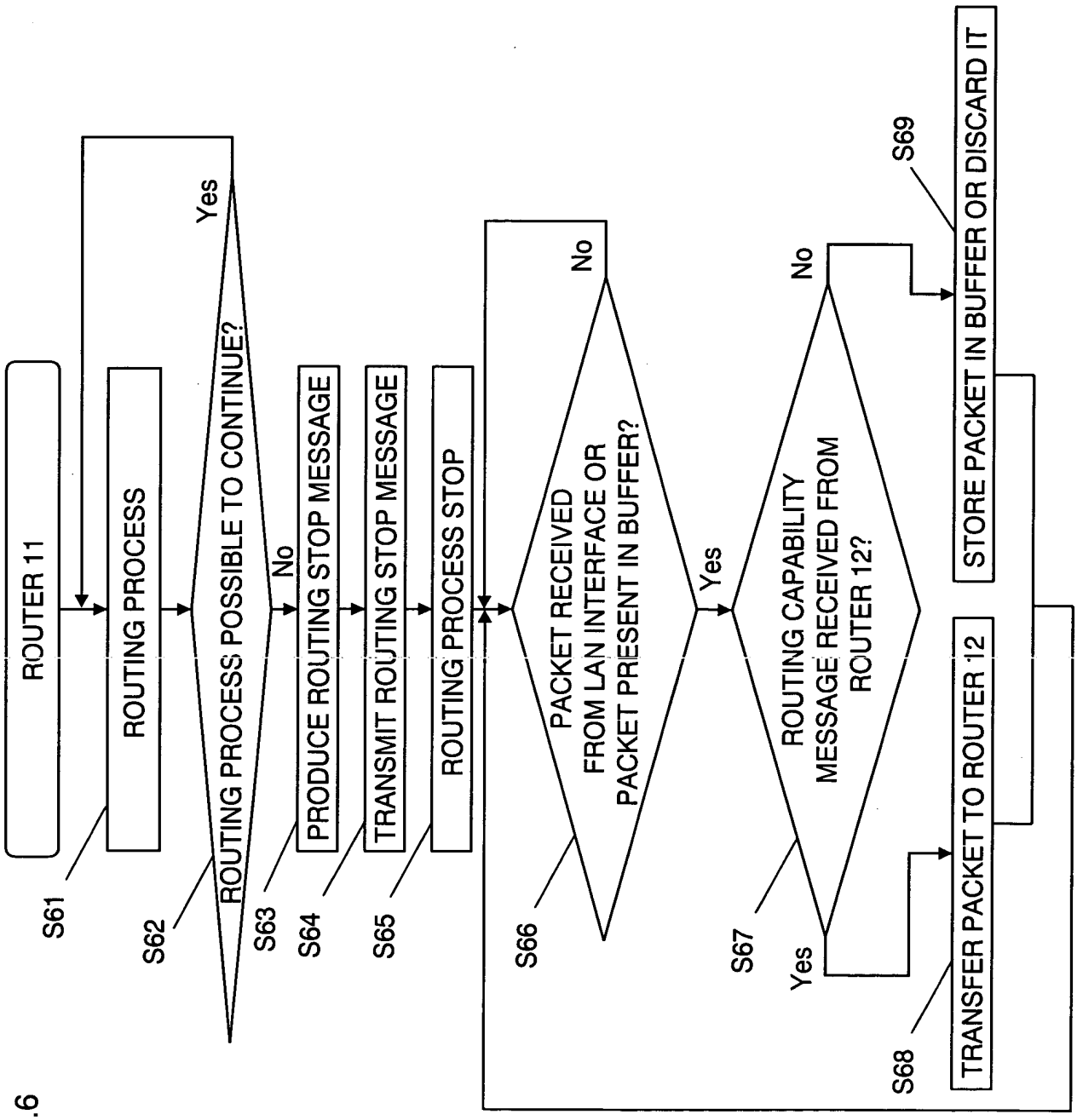

ROUTER 11
ROUTING PROCESS
ROUTING PROCESS POSSIBLE TO CONTINUE?
Yes
No
PRODUCE ROUTING STOP MESSAGE
TRANSMIT ROUTING STOP MESSAGE
ROUTING PROCESS STOP
PACKET RECEIVED FROM LAN INTERFACE OR PACKET PRESENT IN BUFFER?
No
Yes
ROUTING CAPABILITY MESSAGE RECEIVED FROM ROUTER 12?
No
Yes
STORE PACKET IN BUFFER OR DISCARD IT
TRANSFER PACKET TO ROUTER 12
S61
S62
S63
S64
S65
S66
S67
S68
S69

FIG.6

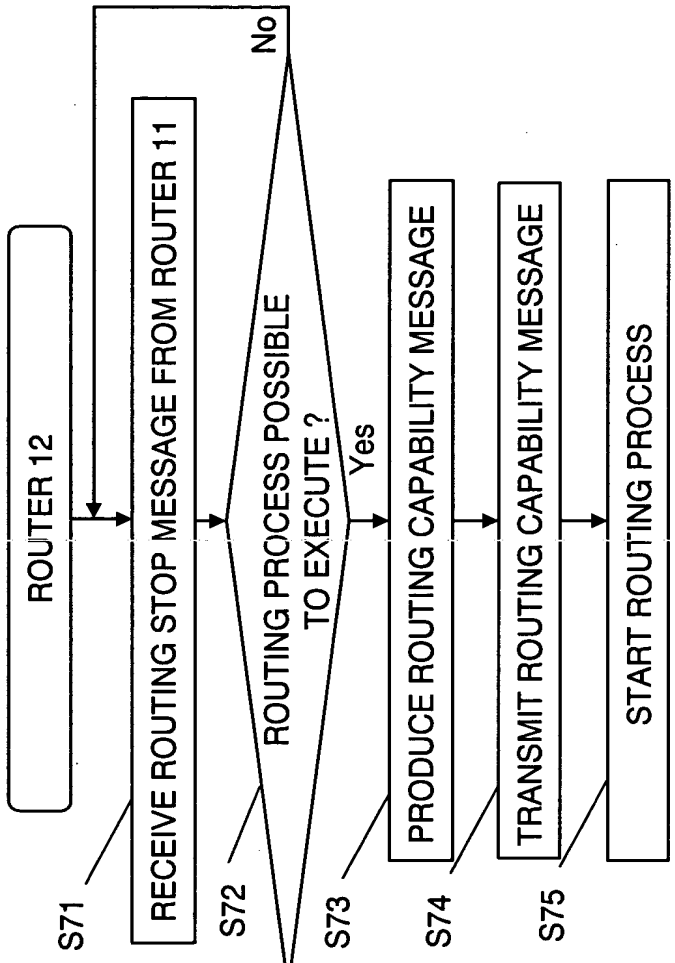

ROUTER 12
RECEIVE ROUTING STOP MESSAGE FROM ROUTER 11
ROUTING PROCESS POSSIBLE TO EXECUTE ?
No
Yes
PRODUCE ROUTING CAPABILITY MESSAGE
TRANSMIT ROUTING CAPABILITY MESSAGE
START ROUTING PROCESS
S71
S72
S73
S74
S75

FIG.7

FIG.8

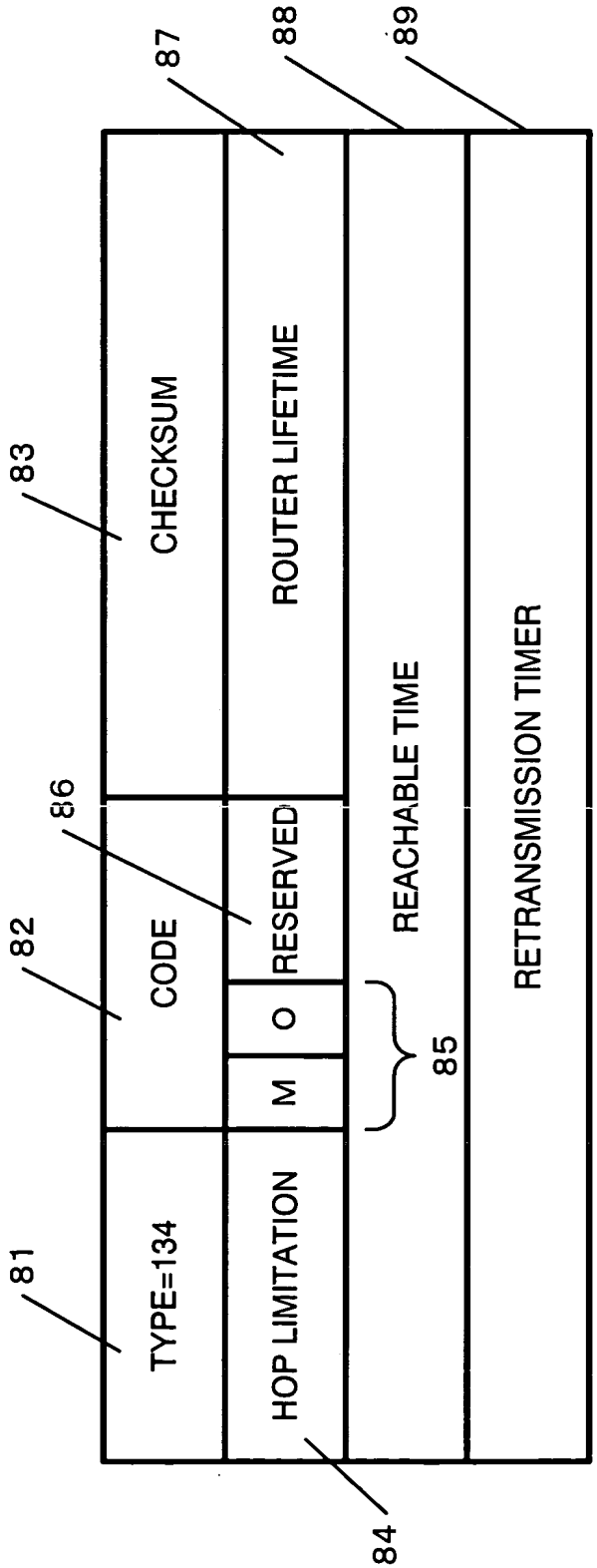

81
TYPE=134
82
CODE
83
CHECKSUM
84
HOP LIMITATION
85
M
O
86
RESERVED
87
ROUTER LIFETIME
88
REACHABLE TIME
89
RETRANSMISSION TIMER

FIG.9

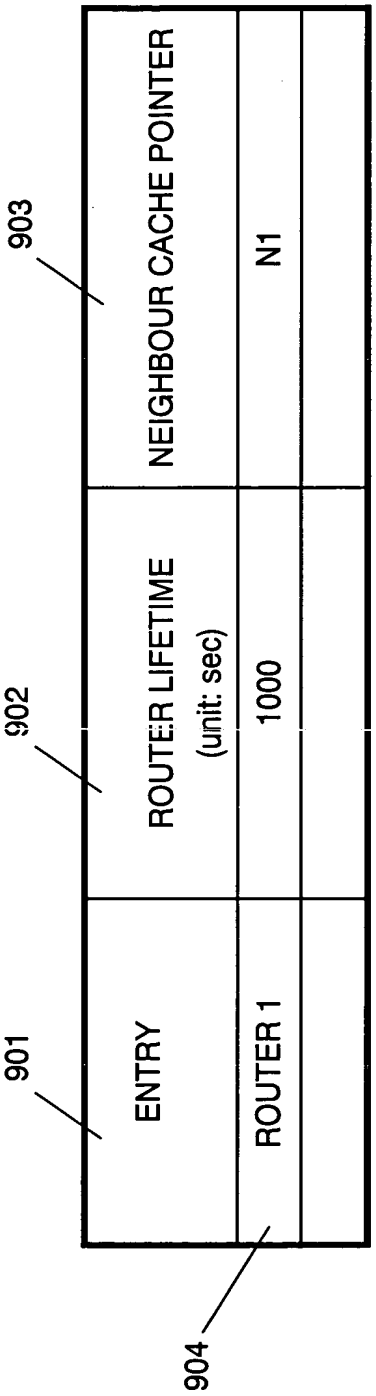

901
902
903
904
ENTRY
ROUTER LIFETIME (unit: sec)
NEIGHBOUR CACHE POINTER
ROUTER 1
1000
N1

FIG.10

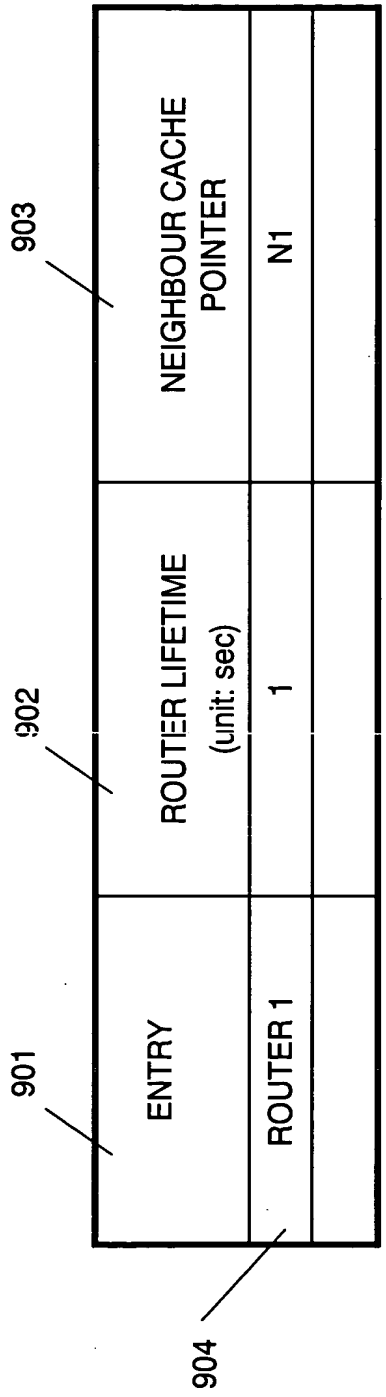

901
902
903
904
ENTRY
ROUTER LIFETIME (unit: sec)
NEIGHBOUR CACHE POINTER
ROUTER 1
1
N1

FIG.11

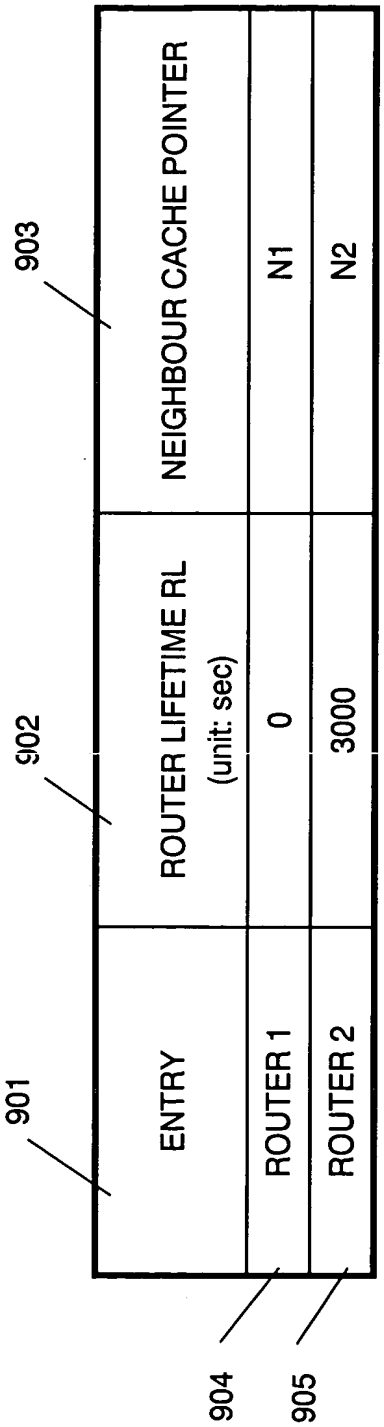

901
902
903
ENTRY
ROUTER LIFETIME RL (unit: sec)
NEIGHBOUR CACHE POINTER
ROUTER 1
0
N1
ROUTER 2
3000
N2
904
905

FIG.12

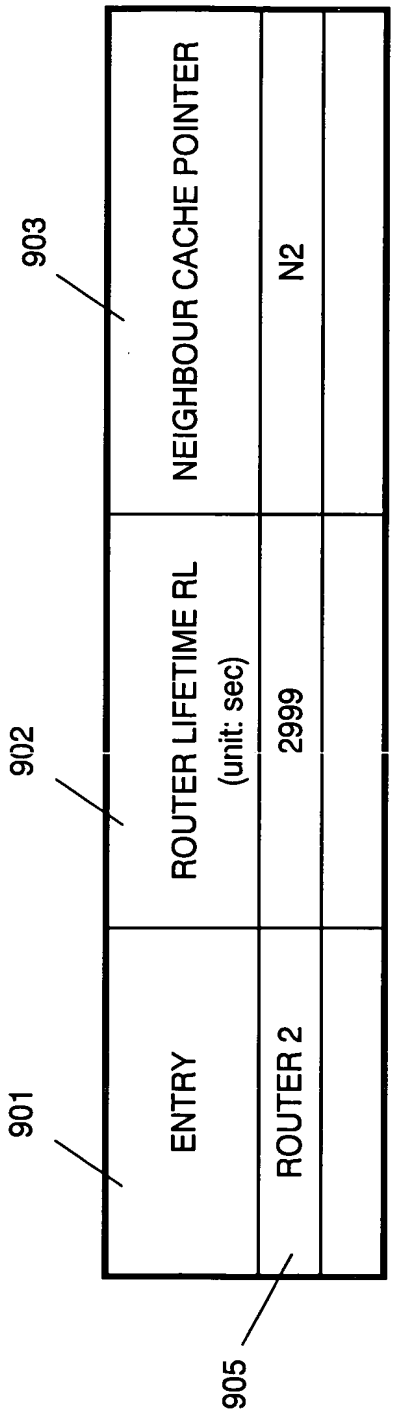

901
902
903
ENTRY
ROUTER LIFETIME RL (unit: sec)
NEIGHBOUR CACHE POINTER
ROUTER 2
2999
N2
905

FIG.13

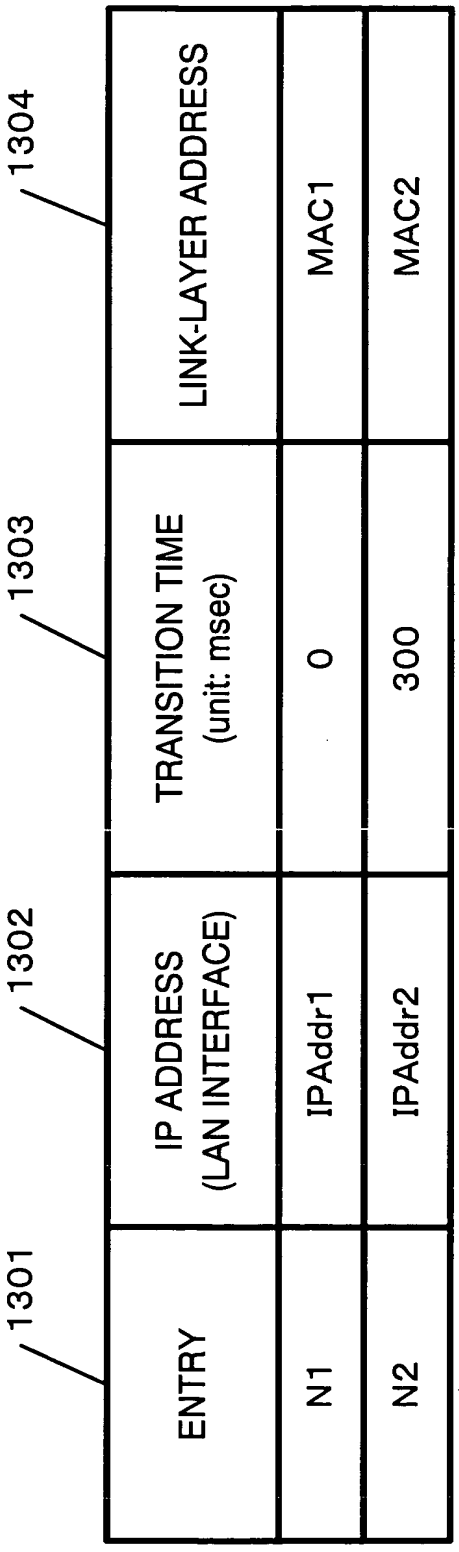
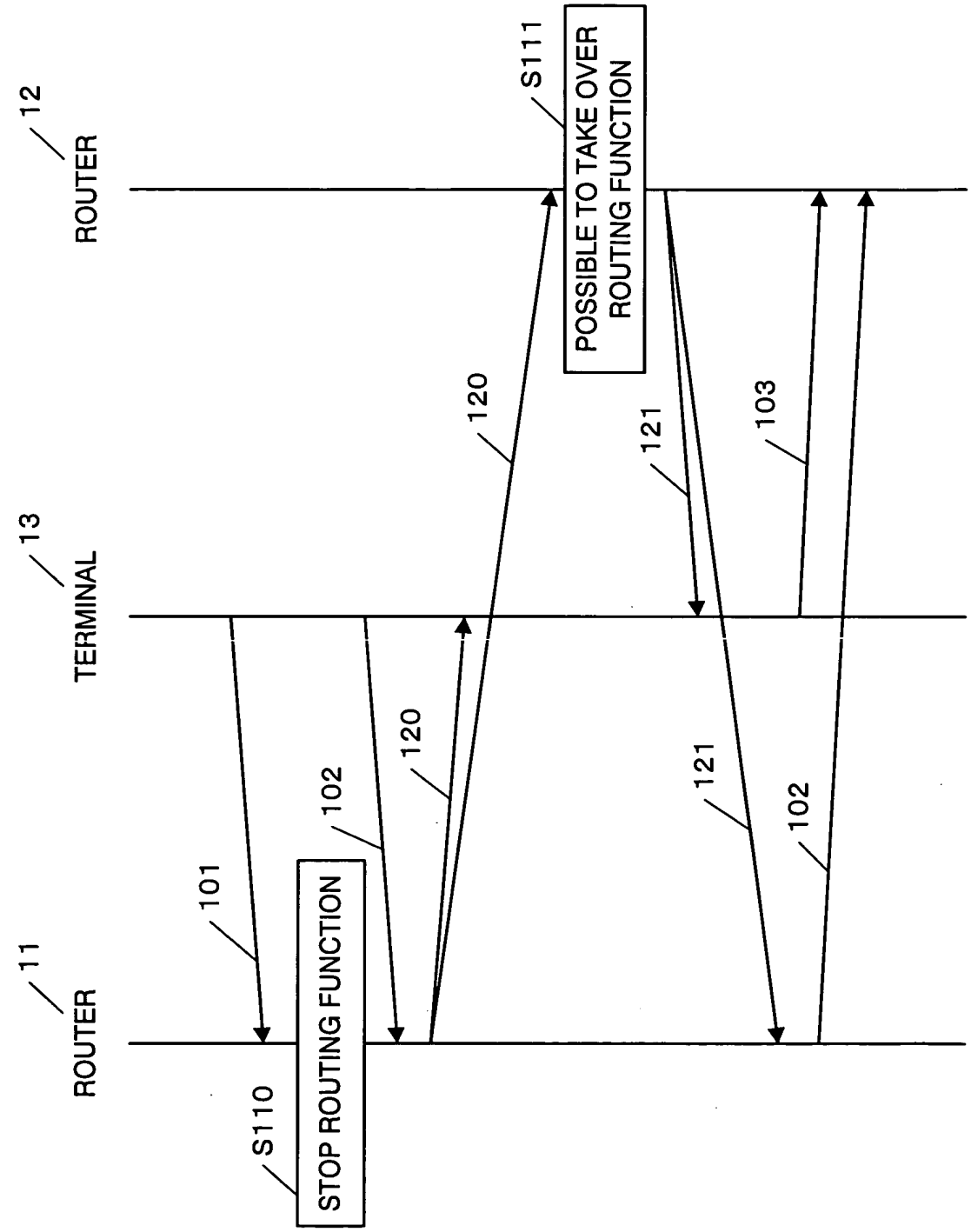

1301
ENTRY
N1
N2
1302
IP ADDRESS (LAN INTERFACE)
IPAddr1
IPAddr2
1303
TRANSITION TIME (unit: msec)
0
300
1304
LINK-LAYER ADDRESS
MAC1
MAC2

FIG.14


12
ROUTER
S111
POSSIBLE TO TAKE OVER ROUTING FUNCTION
120
121
103
13
TERMINAL
120
102
121
102
101
11
ROUTER
S110
STOP ROUTING FUNCTION

List of In-drawing References

1. Local area network (LAN)

2. External network

11, 12. Router

13. Terminal

14, 15. Access point device

16. External terminal

21. LAN interface

22. IP processing section

23. Higher-layer processing section

24. Default router list

25. Neighbor cache

26. Router switchover section

27. Buffer

28. Timer

31. LAN interface

32. IP/routing processing section

33. Higher-layer processing section

34. External-network connecting interface

35. Status monitor section

36. Transition-to-backup-router processing section

37. Router stop time calculating section

38. Buffer

39. Transition-to-master deciding section

40. Transition time calculating section